

XTAL

for the

radio
amateur

Albert E. Yates,
232 Benson Ave.,
Toronto 10, Ont.

MAY
1947

Vol. 9 No. 5

VE3BLJ

7/47



Published by
THE CANADIAN AMATEUR RADIO OPERATORS' ASSOCIATION
TORONTO, ONTARIO





For The Experimenter

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Equipment

National
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MAKERS OF LIFETIME RADIO PRODUCTS

High scorer for his section in the recent sweepstakes of the American Radio Relay League was Frank Glen-non of Canton, Mass., W1KQN, with an unofficial 26,624 score.

Basic units in W1KQN's enviable layout are the National NC-2-40D receiver and the National NTX-30 Exciter. In addition, many National components were used in his transmitter. Around them has been built the station with which W1KQN rang up his record.

Working DX that wasn't hearing enough W stations to know there was a sweepstakes contest, W1KQN operated for only 32 of the possible 40 hours and still racked up the top score.

Year after year, in thousands of ham shacks around the world, National equipment keeps delivering the kind of performance that wins.

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COMPANY, INCORPORATED

Canadian Distributor: Canadian Marconi Co.
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Halifax

St. John's, Nfld.



MARCONI - The Greatest Name in Radio

STROMBERG-CARLSON News brief

NUMBER TWO

whether you are a serious contender, or just anxious to snag that elusive country, which you never seem to even hear except in one of the "tests".

Take the 14 Mc band for instance. All you had to do was set your receiver anywhere, and leave it there, and listen to DX stations jamming each other. And, to add to the racket umpteen Americans and Canadians could be heard everywhere from S9 down to a ground wave level of S3 or S4, all on approximately the same frequency. This is where a receiver that really separates them does the job you want. Why . . . you probably heard DX stations during the BERU Tests calling VEs and the VEs failing to come back, as they didn't hear the DX. One VE was repeatedly called by G, ZL, VQ, and ZS, and contact was not established during one half hour of monitoring. All such instances as this help to create more QRM, and make many a fellow wonder why he isn't getting out with all the soup that is getting up.

It's the old story . . . if you can't hear them you can't work them. Naturally this applies to all receivers alike. Perhaps the noise level is high in your location, or perhaps you try to let a few feet of wire suffice for an antenna. If you have a directive antenna it can do as good a job for receiving as for transmitting, and can be switched by any desirable means. A noise-reducing doublet is a good bet, and may clear up a lot of your noise troubles. However, remember, receiving antennae are as directive for transmitter gain as they are for gain on an incoming signal from a given direction. So don't use a beam squirted at Tokyo, and a receiving aerial in some other direction . . . unless you can hear Tokyo.

Now, any user of an HQ-129-X will tell you that these contests are bedlam of the first water, but he'll also tell you he could drag them in, somehow, usually by judicious use of the Crystal Filter and the B.F.O. adjuster. Sometimes, too, it is necessary to use the Noise Limiter . . . but, it is there to use at the right time.

You may be the proud possessor of a V.F.O. that works. You may have learned the gentle art of "hunting". Hunting doesn't always bring results for others are doing the same thing . . . sometimes a lot of them on the 14 Mc and 28 Mc bands that you can't know are there. You may not wish to sit it out, so take a reading of the band spread dial on the HQ, go elsewhere, and come back later on to the original spot to QSO that DX, after the competition have finished or given up. That's where stability in a receiver comes in.

HQ-129-X's have been built for the hams, and others where general communication is desired. As indicated last month HQ's are becoming more plentiful and the Stromberg Carlson distributor near you will be pleased to give you a demonstration. 25 cycle jobs are also available.

P.S. Look for the new Super-Pro SPC-400-X. It's a beaut!!



STROMBERG-CARLSON COMPANY LIMITED TORONTO 4, CANADA



GENERAL ELECTRIC

Radiogram



Lighthouse Larry comments:

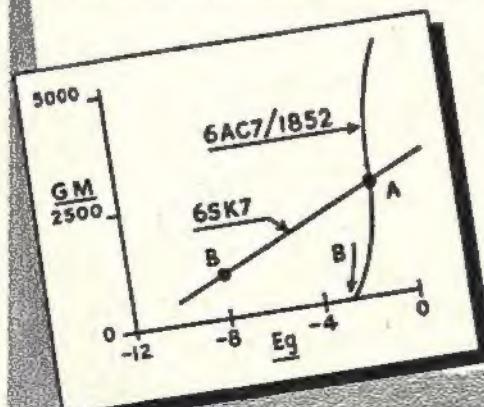
The average ham is exceedingly anxious to get the most out of his present receiver. This can be done by feverishly plugging tube after tube into the set until satisfactory results are secured—but why go about things the hard way? . . . For example, is the 6AC7/1852 metal tube better than the 6SK7? Let's have a close look. The r-f stage in your receiver undoubtedly uses a remote-cut-off pentode. This means, in most cases, a 6SK7 or 6K7. A lot of us have replaced these tubes with a 6AC7/1852 and been overjoyed to find we hear more signals. What actually has been changed? For one thing, a 6AC7/1852 is a sharp-cut-off pentode, definitely not what we want in the r-f

stage. Probably the apparent increase in signals was due to cross-modulation, not to more sensitivity. Signals which formerly were separated, now arrive on the same frequency. A-v-c action also probably is out of kilter, again due to the sharp-cut-off tube.

Reference to the diagram will explain this better. You are receiving a moderately weak signal. Tube operation then would be at point "A" for most tubes. The few microvolts' input from the signal causes this point to remain relatively fixed. Suddenly, on comes that new ham next door with his kw-rig, and only 100 kc away from where you are tuned! This local signal now is impressing volts on your defenseless r-f tube. Modulation of this local signal causes your r-f tube to operate back and forth on its respective operating line. With a 6SK7, if operation is from "A" to "B", tube action is linear, as may be seen from the straight line on the graph. In the case of the 6AC7/1852, a much different effect takes place. As soon as grid voltage tries to swing from "A" towards "B" the tube becomes completely cut off, distortion takes place, and cross-modulation has become a new annoyance in your receiver.

Remember I'm at your service to help you with any special data you may wish about General Electric's value-giving line of metal tubes for amateurs!

Lighthouse Larry



CANADIAN GENERAL ELECTRIC

HEAD OFFICE — TORONTO

R-547



XTAL

[C R Y S T A L]

VOL. IX
MAY

1947
Vol. 9, No. 5

OFFICIAL PUBLICATION
of
CANADIAN AMATEUR RADIO
Published by
**THE CANADIAN AMATEUR RADIO OPERATORS'
ASSOCIATION**
46 ST. GEORGE ST., TORONTO 5, ONTARIO
TEL. Midway 8235

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HILITES

ARRL FIELD

DAY TEST

For Portables

June 14-15

See page 8 for details on Ham
radio's biggest outing.

XTAL CONTROL

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EDITORIAL

... new regulations . . .

IN THIS issue we print the new Canadian regulations which came into force at the start of the current licensing year. We would venture to state that never before in one year have so many changes been made, and it would be a good idea to make certain that you're acquainted with them all. Comparatively few alterations in frequencies will be noted, the chief ones being the sub-divisions of the eleven, ten and six-meter bands to provide for some exclusive territory for CW and to encourage experimentation in FM. The major point to notice is that 27,185 to 27,245 Kc and 28,000 to 28,200 Kc is now out of bounds to telephony of any kind, the former space being reserved for CW and MCW, and the latter for CW only. Of greater interest are the revised regulations governing the use of telephony by new licensees. These have the effect of dividing the spectrum into two portions, one of which comprises the low-frequency communications bands below 30 megacycles, and the other the high-frequency experimental bands from 30 megacycles up. As before, the new licensee can use any type of emission he chooses on the high-frequency assignments as soon as his license is issued, and he is required to be familiar with CW only to the extent necessary to pass the initial exam. at 10 words per minute. He cannot, however, employ telephony of any sort, AM or FM, on the low-frequency bands (from 10 to 80 meters inclusive) until he has been active on CW for at least six months on one or more of those same bands, and that applies even if he has spent ten years on the UHF. The principle behind this is simple and logical. The compulsory six months on CW is not meant to serve as technical training for phone, but is designed to familiarize every ham with a basic knowledge of telegraphy procedure. In this way every operator who possesses equipment designed for the low-frequency bands—the bands most useful for long-distance and emergency communications—will have the know-how to work CW if he is ever called upon to do so. After this six-month training period, the licensee can secure authorization to experiment with phone on two of the five low-frequency bands—ten and eleven. After the license has been in force for one year, he can, if he feels capable, try the restricted phone examination which leads to the 20 and 75-meter phone bands. This consists of an investigation into

his knowledge of advanced theory and operation in this type of emission, and, as a final guarantee of his proficiency in the code, exam at 15 words per minute. This test signed to insure that only fully qualified operators gain access to the two restricted bands, and while this principle is not new, new regulations enforce it more strictly heretofore. . . . Those who had their licenses endorsed for unlimited phone before April 1 will be permitted to retain their priviledges without further examination, and some members are quick to criticize this arrangement, pointing out that many stations in this class can continue to operate without adequate knowledge of CW. This is quite true, possibly the new rules should have been sweeping in this regard; nevertheless, due to the increasing popularity of phone, we expect to see fewer and fewer operators that haven't at least a working knowledge of CW and certainly those that haven't won't be bragging about their ignorance. In general, new regulations can be considered a step in the right direction, and in the long run will undoubtedly contribute to the improvement of amateur radio in Canada.

... hi! ...

BCI TAKES ON NEW MEANING

A Dauphin, Manitoba, ham of long standing has found another gremlin to add to his little worries.

Putting his 150-watt rig on the air, Sunday evening, Apr. 20, after having checked with a couple of the boys for BCI, he was more than surprised to find that his QSO with a Winnipeg station on 75 meter phone was being monitored by the First Baptist Church, a half block away!

Every time the organist sounded a chord, the music came forth sandwiched with "old man, and very fine business," "What's the dope?" etc.

So, added to the well known broadcast interference, we now have Baptist Church interference.—4PA.

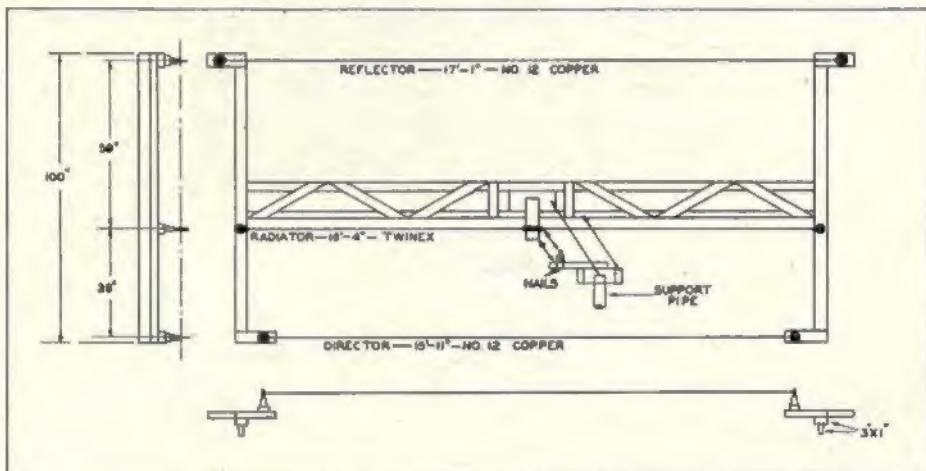
A Universal Ten Meter Beam

By H. L. Winter, VE3AOK

We live in an apartment, my xyl, my harmonic, my peanut whistle and I. Space is at a premium and so is the xyl's patience. Driven to the construction of a beam by threats of everything possible if I didn't stop shouting so loud into the mike, I decided to build a beam in order that I could be heard in Singapore while whispering.

While talking to my very good friend Bill at W5AVW in Beaumont, Texas, one fine day, I mentioned "Beam Wanted." That set old Bill into a spiel that ended up with my having the full details on the world's most economical three-element beam. Looking in my treasure chest, I discovered \$3.87 in cash, a picture of

the drain pipe off the basin in the bathroom and placed a five-gallon can under to catch the drip. Then I started furiously working on construction. When I had finished the xyl surveyed the job and asked why I had those large spark plugs holding the ends of the clothesline. I said that was so lightning wouldn't strike her best suit of red flannels. When I installed the beam up on the roof 65' feet off the ground she asked how she was to reach that and how come I put it so high. I said I had it high so the clothes would dry better and that I was going to make her a pair of stilts to reach it. "Phooey," she said, "that is something you have made for that £@&%\$# station of yours."



my former gal before I met the xyl, my first tooth, a blonde hair and some dust. Of this collection I decided the \$3.87 would be the best to help with the beam.

In trying to pull the wool over my xyl's eyes I dropped a hint that I was going to build her a rotating clothes tree to set on the back lawn. With this idea in her mind I was free to go ahead without the usual "&%\$@! that station of yours."

I carefully surveyed the length of feeder required and found it to be about 47 feet. So I added 18' 4" to this and then allowed 3' for waste and ordered me 66' 4" of Amphenol 72-ohm Twinex at 3c per foot, along with six standoff insulators. Between the times I posted the order and received the goods back I had removed a portion of the living room wall to obtain some lumber. This I cut into 1" x 3" pieces varying in length from 4' to 18'. I took

I am going home to mother!" (She is still here.)

How did I make the beam and how does it work? Well, firstly, the construction:

Two pieces of 1 x 3 are cut 18' 4" long. These are placed on the floor on edge and spaced 6". They are then latticed across the top with more 1 x 3, except the centre, which is jointed through its entire height of 3" by three pieces 6 x 6 x 1 with the bottom two drilled to take a 1 1/4" pipe. Across each end of this arm two pieces of 1 x 3 x 100" are mounted. These are first fastened together in the form of a "T" to give both vertical and horizontal strength. On each end of these secondary arms short pieces of 3 x 1 are mounted, one pair going in and the other out. These are for mounting the reflector and director standoffs. By referring to the draw-

QSY to page 24

ARRL Field Day - June 14-15

Canadian National Carbon Company Limited Donates
Trophy for Annual Club Competition

Amateur Radio's Biggest Week-end!



CANADIAN Amateur Radio Clubs are invited to plan special Field Day activities as groups. A.R.R.L. Emergency Co-ordinators will be afforded an excellent opportunity to organize and test their systems. Every amateur is invited to take part whether his effort be individual or coupled with some pals. At any rate fun and comradeship are guaranteed.

The Canadian National Carbon Company Limited, makers of Eveready Batteries, are dedicating a handsome trophy to the advancement of preparedness in the amateur emergency service. For annual competition, this trophy will be presented to the recognized amateur radio club with the highest field day score in Canada. Affiliation with CAROA or A.R.R.L. is NOT a pre-requisite; competition is open to all Canadian clubs.

Operation: The aim for each portable is to work as many other portables, or, as many home stations as possible in the time allotted. Advance entry is not required. The general call will be (CW) CQ FD or (phone) CALLING ANY FIELD DAY STATION. Mobile work does not count. Any or all amateur frequency bands may be used. Portable stations operated in the field (away from the "home" address) are eligible to submit field scores. Individuals or groups under one call must be "in the same locality," "in one group or building or field," constituting a single D of T-notified location. DO NOT FORGET TO

NOTIFY YOUR LOCAL RADIO INSPECTION OF YOUR EXACT CHOSEN FIELD LOCATION. To have points count, all stations at control points at a FD station must be within 500 horizontal feet of some given point.

Period of Operation: Operating time for FD shown in logs must be between Saturday, June 14, 4 p.m., your LOCAL TIME and Sunday, June 15, 6 p.m. your local time.

Scoring: Each non-portable station worked counts ONE point toward the score. Port-to-Portable contacts will count TWO points. The same station contacted again ONLY if the FD transmitter credit reported was in a DIFFERENT amateur band. An extra credit of 25 points before multiplier may be claimed for radio origination of not more than one message addressed to A.R.R.L. HQ, provided only message copy is submitted with claim for score. FD messages to A.R.R.L. HQ, all include the following data: number of operators, location, conditions, power. There will be eight points awarded for the radio handling of each FD message of another group. (Two points incoming and four points outgoing.)

Multipliers: Score may be multiplied by three if either the receiver or transmitter is independent of mains or commercial power source, or by three if both transmitter and receiver are supplied from an independent local source or sources. Additionally, the following points are available:

QSY to page

DEPT. OF TRANSPORT REGULATIONS

FREQUENCY BANDS ALLOCATED FOR USE AT AMATEUR EXPERIMENTAL STATIONS UNDER 1947-1948 LICENSES

Frequency	Bands	Types of Emission
3 700	3 800 Mc	A1
3 800	4 000 Mc	A1
4 000	7 300 Mc	A1
13 500	14 150 Mc	A1
14 170	14 300 Mc	A1
14 300	14 400 Mc	A1
25 185	27 245 Mc	A1 A2
27 235	27 455 Mc	A1
28 000	28 200 Mc	A1
28 200	29 700 Mc	A1
29 630	34 000 Mc	A1 A2 A3
144 000	148 000 Mc	A1 A2 A3
235 000	240 000 Mc	A1 A2 A3
420 000	450 000 Mc	A1 A2 A3
1215 000	1295 000 Mc	A1 A2 A3
2300 000	2450 000 Mc	A1 A2 A3
2800 000	3500 000 Mc	A1 A2 A3
3850 000	3850 000 Mc	A1 A2 A3
10000 000	10500 000 Mc	A1 A2 A3
21000 000	22000 000 Mc	A1 A2 A3

CONDITIONS TO BE OBSERVED IN THE OPERATION OF AMATEUR EXPERIMENTAL STATIONS

Except as indicated hereunder, the input power to the antenna shall not exceed 500 watts. For purpose of this requirement, the final amplifier shall be considered to be operating with an efficiency of 70 per cent.

Stations with power input to the final amplifier in excess of 400 watts shall be equipped with meters of a standard manufacture and accuracy for measuring the plate voltage and current to the tube or tubes supplying power to the antenna.

Power input to the antenna on the 420-450 Mc band shall not exceed 50 watts.

The carrier from a transmitter operating on frequencies below 144 Mc must be suppressed during periods of reception. Except for brief tests and adjustments which must be identified by the station call sign, the emission of an unmodulated carrier is not permitted on frequencies below 144 Mc.

The direct modulation of an oscillator with a frequency stability less than that obtainable with crystal control is prohibited on frequencies below 144 Mc.

Each call and sign-off shall be made by the holder of a certificate of proficiency in radio of at least amateur grade. Nevertheless, the licensee may permit any person to take part in A3 transmissions provided he, the licensee, is present and retains physical control of the station.

PORTABLE PRIVILEGES

All licensed amateur experimental stations are authorized to operate one radio transmitter and receiving equipment of a portable nature in the bands allocated to such stations between 28.0-29.7 and 21000.0-22000.0 Mc inclusive in a passenger automobile owned by the licensee, or at a temporary location for communication with any licensed amateur experimental station (including the equipment installed at the home address of the portable station), provided the following requirements are complied with:

- When in use the portable equipment shall be designated by the call sign assigned in the station license, followed by the word "Portable."
- The equipment at both the home station and portable station shall be operated by persons holding certificates of proficiency in radio of at least amateur grade, unless otherwise authorized by the minister of reconstruction and supply.
- The portable equipment shall be available for inspection at the licensed address of the station whenever required by departmental radio inspectors.

RADIOTELEPHONE TRANSMISSION (A3)

Radiotelephone transmission (A3) may be used in the

following frequency bands subject to the conditions (a), (b), (c), (d), (e) and (f) indicated.—

3.800 — 4.000 Mc (a), (b), (c), (d), (f).
14.150 — 14.200 Mc (a), (b), (c), (d), (f).
27.245 — 27.455 Mc (a), (b), (c), (e), (f).
28.200 — 29.700 Mc (a), (b), (c), (e), (f).

- The station shall at all times be equipped with a reliable frequency measuring device and a visual means of indicating overmodulation.
- The transmitter shall be of a type which is preferably crystal controlled or which has a stability and constancy comparable to that of a crystal controlled oscillator.
- The modulation system shall be so designed and operated as to insure intelligible speech, must not in any case exceed 100 per cent and must not disturb the frequency stability of the transmitter.
- The licensee shall have been the holder of an amateur experimental station license for at least one year during which period his station shall have been in active operation and provided he passes an examination in advanced radiotelephone theory and operation and a code test at not less than 15 words per minute.
- The licensee shall have been the holder of an amateur experimental station license for at least six months during which period his station shall have been in active operation on frequencies below 29.7 Mc.
- The retransmission of signals from a station with limited telephone privileges by a station with full radiotelephone privileges in a restricted band is prohibited.

NOTE—Licenses desiring authority to use radiotelephony in any of the above frequency bands must submit an application to their nearest district radio office.

FREQUENCY MODULATION

Frequency modulation transmission (A1, A3) is permitted in the following frequency bands only:

27.395	27.455 Mc	235.0	240.0 Mc	3800.0	3500.0 Mc
29.500	29.700 Mc	420.0	450.0 Mc	5650.0	5850.0 Mc
52.500	54.000 Mc	1215.0	1285.0 Mc	10000.0	10500.0 Mc
144.000	148.000 Mc	2300.0	2450.0 Mc	21000.0	22000.0 Mc

DISTRICT RADIO OFFICES

Ottawa—Room 234 Hunter Building.
Winnipeg—Room 539 Public Building.
Halifax—7th Floor Dominion Public Building.
Regina—Rooms 406-402 Public Building.
Montreal—Room 408, 400 Youville Place.
Calgary—Room 404 Public Building.
Toronto—Room 566 Dominion Public Building.
Victoria—Rooms 413-418 Belmont Building.

OFFICIAL POSTWAR INTERNATIONAL COUNTRIES LIST

	A	KG6	Marianas IIs. (Guam)	VP1	Br. Honduras
AC3	Sikkim	KH6	Hawaiian IIs.	VP2	Leeward IIs.
AC4	Tibet	KJ6	Johnston I.	VP3	Windward IIs.
AR	Syria	KL7	Alaska	VP4	Br. Guiana
	C	KM6	Midway I.	VP5	Trinidad and Tobago
C	China	KP4	Puerto Rico	VP5	Jamaica
CE	Chile	KP6	Jarvis I.	VP5	Cayman IIs.
CM	Cuba	KP8	Palmyra Group	VP6	Barbados I.
CN	Fr. Morocco	KS4	Swan I.	VP6	Bahama IIs.
CG	Cuba	KS6	Samoas Am.	VP7	Falkland IIs.
CP	Bolivia	KV4	Virgin IIs.	VP8	South Georgia
CR4	Cape Verde IIs.	KW6	Wake I.	VP8	South Orkney IIs.
CR5	Port. Guinea	KZ5	Canal Zone	VP8	South Sandwich IIs.
CR6	Angola	LA	L	VP8	South Shetland IIs.
CR7	Mozambique	LI	Norway	VP9	Bermuda IIs.
CR8	Goa, Port. India	LU	Libya	VQ1	Zanzibar
CR9	Macau	LX	Argentina	VQ2	Rhodesia Northern
CR10	Timor, Port.	LZ	Luxembourg	VQ3	Tanganyika Terr.
CT	Portugal	NY4	Bulgaria	VQ4	Kenya
CT2	Azores IIs.		Guantanamo Bay	VQ5	Uganda
CT3	Madeira IIs.			VQ6	Somaliland Br.
CX	Uruguay	D		VQ8	Chagos IIs.
		OA	O	VQ8	Manritius
D	Germany	OE	Peru	VQ9	Seychelles
	E	OR	Austria	VR1	Gilbert and Ellice IIs.
EA	Spain	OK	Finland	VR1	Ocean IIs.
EA6	Baleairic IIs.	ON	Czechoslovakia	VR2	Fiji IIs.
EA8	Canary IIs.	OQ	Belgium	VR3	Fanning I.
EA9	Morocco Sp.	OX	Belgian Congo	VR4	Solomon IIs.
EI	Eire (Ir. Free St.)	OY	Greenland	VR5	Tonga (Friendly) IIs.
EK	Tangier Zone	OZ	Faeroes The	VR6	Pitcairn I.
EL	Liberia		Denmark	VS1-2	Malaya
EP	Iran	PA	P	VS4	Br. North Borneo
EQ	Iran	PJ	Netherlands	VS5	Saravak
ET	Ethiopia	PK	Netherlands W. Indies	VS5	Brunei
	F	PK4	Java	VS5	Hong Kong
F	France	PK5	Sumatra	VS7	Ceylon
FA	Algeria	PK6	Dutch Borneo	VW9	Aden and Socotra IIs.
FB8	Madagascar	PK6	Celebes IIs.	VU	India
FD8	Togoland Fr.	PK6	Molucca IIs.	VU4	Laccadive IIs.
FE8	Cameroons Fr.	PX	Dutch New Guinea	VU7	Bahrein I.
FF8	West Africa Fr.	PY	Andorra		
FG8	Guadeloupe	PZ	Brazil		
FG18	Indo-China Fr.		Dutch Guineas (Surinam)		
FK8	New Caledonia			W	U.S.A.
FL8	Somaliland Fr.	SM	S		X
FM8	Martinique	SP	Sweden	XE	Mexico
FN	India Fr.	ST	Poland	XU	China
FO8	Oceania Fr. (Tahiti)	SU	Anglo-Egyptian Sedan	XZ	Burma
FP8	Miquelon & St. Pierre IIs.	SV	Egypt		
FQ8	Equatorial Africa Fr.	SV	Greece	VA	Y
FR8	Reunion IIs.	SV5	Crete	YJ	Afghanistan
FT4	Tunisia		Bodocanese IIs. (Rhodes)	YN	New Hebrides
FU8	New Hebrides	TA	Turkey	YR	Nicaragua
FY8	Gulana Fr. and Iaini	TF	Iceland	YS	Roumania
	G	TI	Guatemala	YT	Salvador
G	England	TI	Cocos IIs.	YU	Yugoslavia
GC	Channel IIs.		Costa Rica	YV	Yugoslavia
GI	Northern Ireland			YI	Venezuela
GM	Scotland				Iraq
GW	Wales				
	H	UA1	U	Z	Z
HA	Hungary	UA3	Soviet Union	ZB1	Albania
HB	Switzerland	UA4	"	ZB2	Malta
HC	Ecuador	UA5	"	ZC1	Gibraltar
HE1	Liechtenstein	UA5-O	Asiatic Russia	ZC2	Trans-Jordan
HH	Tatni	UB5	Ukraine	ZC3	Cocos IIs.
HI	Dominican Rep.	UC5	White Russia	ZC4	Christmas IIs.
HK	Colombia	UD6	Azerbaijan	ZC6	Cyprus
HP	Panama	UF6	Georgia	ZD1	Palestine
HR	Honduras	UG6	Armenia	ZD2	Sierra Leone
HS	Siam	UH8	Turkoman	ZD3	Nigeria
HZ	Saudi Arabia (Hedjaz & Nejd)	UI8	Uzbek	ZD4	Gambia
	I	UJ8	Tadzhik	ZD4	Gold Coast
I	Italy	UL7	Kazakh	ZD6	Br. Togoland
IE	Eritrea	UM8	Kirghiz	ZD7	Nyasaland
	J	UN1	Karelo-Finnish Rep.	ZD8	St. Helena
I		UO5	Moldavia	ZD9	Ascension I.
IE		UP	Lithuania	ZD9	Tristan Ia Cunha
		UQ	Latvia	ZE	Gough IIs.
		UR	Estonia	ZK1	Rhodesia Southern
J	Japan			ZK2	Cook IIs.
	K	VE	V	ZL	Nine
K	U.S.A.	VK	Canada	ZM	New Zealand
KA	Philippine IIs.	VK4	Australia	ZP	Samoa Western
KB6	Baker I., Howland I.	VK8	Tasmania	ZS	Paraguay
KB6	Phoenix IIs.	VO	Papua Territory	ZSS	Union of South Africa
KC4	Little America	VO	New Guinea (territory)	ZS4	South-West Africa
			Newfoundland		Basutoland
			Labrador		

VHF IN CANADA

Conducted by GORDON COLEMAN, VE3ANY

ANOTHER month has come and gone with very little being reported to your scribe on VHF activity in districts other than Ve3. As the dx season on 50-54 Mc approaches, it would help in correlating results and be a benefit to Canadian hamdom in particular if those of you who are active on frequencies above 50 Mc would drop us a line once in a while and let us know who you work, what dx and locals you talk to, what equipment you are using and when dx openings occur. This is your column, VHFFers, not ours, and we haven't yet perfected that crystal ball to the point where we can look in on all of you by remote control.

The new Canadian amateur radio regulations, which became effective April 1, 1947, contain features of interest to VHFFers. Elsewhere in this magazine you will find them in detail. The clause prohibiting the use of modulated oscillators on 50-54 Mc was only a natural adoption of a regulation which has been in force for some time now in the U.S.A. We sincerely hope it will not "scare off" the boys who had been using modulated oscillators, but rather will be the impetus necessary to get them back on the band with something stable. The prestige of 50-54 Mc band has now been elevated considerably and falls in line (except for proficiency and radio telephony test) with the lower frequency phone bands. It was a good move—on that, we think most will agree! Too bad it happened so suddenly.

144-148 Mc remains untouched by the new regulations, but strangely enough, at the present time, with the very good equipment being used on this band, it could easily qualify as a Class A3 band.

The skip dx (E layer) opening expected April 4-5 did not materialize in the Ontario sector until April 6, 1900-2130 hrs. EST. Numerous Ve3's who had kept a constant vigil from Friday morning to Sunday afternoon got a little tired of waiting and sought other pursuits. It seemed that no sooner had they turned their backs on the band when things began to happen. Very few Ve3's were around for the fun. In Oshawa Ve3AZV, Ve3AZT and Ve3ANG were on, as were Hamilton's Ve3AND, Ve3BHS, Ve3BGT. Ve3DC in Dundas, Ontario, and Ve3AVW in Toronto were lone wolves. After the excitement had died down the score was as follows:

Ve3AZV—Heard W5LM—59 and 20 db for half an hour, heard at least a dozen more W4's and 5's.

Ve3AZT—Worked W5DXC, Vivian, La., heard plenty more.

Ve3ANG—Worked W5WI, Louisiana.

Ve3DC—Worked W5DXC, heard W0 and three other W5's, heard unidentified station calling Ve3AZV.

Ve3BGT—Heard W5LM calling Ve3AND.

Ve3BHS—Heard several W5's and W0's.

All in all, it was a good opening, but not as strong, nor as consistent as last fall. However, it gave promise of bigger and better to come. April 10-13, another "hopeful," was unproductive of anything except local sigs in Hamilton-Toronto-Oshawa area.

We have no reports on conditions elsewhere in Canada, which goes to prove something or other. The opening predicted for April 13 came on April 15. When you realize that, until now, no real attempts at predicting E layer skip dx have been made, considerable credit must be given to Oliver Perry Ferrell of "CQ" magazine for coming forth with something that seems to be accurate, if not correctly timed. These predictions can be made more accurate only by checking and cross-checking reports of dx contacts. So let's have the reports here, or send them direct to W0ZJB, Gashland, Missouri.

"On deck" for the April 15 opening were: Ve3KM, Bartonville; Ve3DC, Dundas; Ve3LU, Brantford; Ve3AZV, Oshawa; Ve3AND, Ve3BFF, Ve3BGT, Ve3AEZ, Hamilton; Ve3AVW, Ve3APS, Ve3AXT, Toronto; Ve3ANY, Lakeview.

Contacts made were: Ve3DC-WTQK; Ve3LU-W0TQK; Ve3AZV-W0TQK; Ve3ANY-W0ZJB, W0TQK, W0ICV, W0YUQ (incomplete).

Heard by all were the above stations plus W1HDQ and some unidentified W4's. The opening lasted from 9.40 pm until 10.55 pm EST and signals were for the most part very strong, but with heavy QSB. W0TQK was most consistent as who wouldn't be with 750 watts!

These openings provide more data for our "DX Derby" but it is lamentable that, as we go to press, no reports from elsewhere in Canada have been received. However, next month should show quite a few changes in the old Derby column. Don't accuse of having too much Ve3 flavour, you guys!

Canadian DX Records

50-54 Mc—Ve4DG (Winnipeg, Man.)—W8QYD (Dayton, Ohio)—Approx. 1200 miles—July 1, 1946.

420 Mc—Ve3BFF-Ve3AND (both of Hamilton, Ont.)—1 4/5 miles—Mar. 19, 1947.

QSY to page 26

HEADQUARTERS HAPPENINGS

VE3CAR. —Our Headquarters station was off the air for two or three weeks in early April due to the necessity of making some changes in our equipment. If you listen regularly, it will not be necessary to mention that VE3CAR is back on now with a somewhat improved signal. Results on 80 have been most encouraging, the CW transmissions having been copied as far west as British Columbia. We fear, though, that conditions on 20 are not exactly favourable for two-way communication between Ontario and the other Canadian districts. VE1's and VE2's are almost never heard during the evening, and the west comes quite poorly for the most part. The operators nevertheless continue to look for Canadian stations first, and your calls will be most welcome. We would also like to hear from you if you have any suggestions as to the schedule, the type of bulletins broadcast, etc. The station is run for the benefit of CAROA members, so don't hesitate to express your views. The schedule remains as follows for the time being:

Tuesdays—	Bulletins on 3860 Kc (CW)	8:00 pm EDST
	General QSO period follows bulletins.	
	Bulletins on 3820 Kc (phone)	10:00 pm EDST
	General QSO period follows bulletins.	
Thursdays—	Bulletins on 14125 Kc (CW)	8:00 pm EDST
	General QSO period follows bulletins.	
	Bulletins on 14185 Kc (phone)	10:00 pm EDST
	General QSO period follows bulletins.	

Some of the frequencies listed have been changed since the first schedule was published, but we expect those shown above will be permanent. . . . Remember, our operators will also be glad to handle any traffic you may have for this area.

CONTESTS. —In the belief that large number of hams enjoy participating in organized contests, we have taken steps to form a National Contest Committee to work out improvements to existing affairs (such as the VE W)—and to draw up plans for new contests which would be of particular interest to VE's. Members of this committee to date are R. Backhouse, VE1QF, Mike Caveney, VE3GG, and Len Claydon, VE4NT. At the time of writing two more volunteers are required; one from Saskatchewan or Alberta, and another from British Columbia. A five-man group representing all sections of the country will, we feel, be qualified to organize some activities which will be of universal interest, and while the need to confer may make the job difficult, it should not make it insuperable. When the committee is complete, a chairman can be elected among the members to co-ordinate activities. If you reside in the above-mentioned districts and are interested in contest work, we would very much like to hear from you as soon as possible.

FINANCES. —Balance sheet of the Association as of Dec 31, 1946, will be found in the May issue. While it does not reveal such a financial position as we would like to see, nevertheless we regard it with considerable satisfaction. The year 1946 saw the Canadian Amateur Radio Operators' Association grow to a stature hardly contemplated when it was first founded, and it assumed many responsibilities on behalf of its members. In many ways 1946 was a year of struggle and of anxiety, but it was also a year of consolidation, and a firm foundation has been laid for future progress.

INTERNATIONAL CONFERENCE. —Very few developments have come to our ears late. We are informed, however, that the Canadian Government will lend its support to the retention of all the amateur bands now available to us and will in addition sponsor the widening of the 10-meter band to its former 30 Mc limit. Canada is also in favour of a new amateur assignment at 21 Mc, and it is quite possible that our authorities will not object to it being 500 Kc wide, in accordance with the U.S. proposal.

AC-DC BCI. —Amateur interference with broadcast receivers, particularly the AC-DC type, is becoming a problem of ever-increasing seriousness, judging by the number of letters on the subject received at Headquarters. CAROA has taken the question up with the Radio Manufacturers Association of Canada, and we are informed that the Engineering Committee of that body is about to conduct an investigation into the cause and cure of the trouble. It was pointed out, however, that only half the firms manufacturing radio receivers in the country are members of the R.M.A., so that they cannot promise unanimous action throughout the industry. Nevertheless, if the larger firms take the lead in correcting this harmful situation, it should be easier to persuade the others to fall in line. We hope that these developments indicate that the manufacturers are convinced of the desirability of rendering the products less susceptible to amateur interference.



DX'ers of THE MONTH

Ve4RO

42

countries

Call	March Total	Post-War Total
Ve4RO	42	116
Ve2GA	29	47
Ve3LZ	26	70
Ve7EH	25	44
Ve3BBZ	22	43
Ve3QB	22	40
Ve1PQ	21	66
Ve1AQ	19	31
Ve6FZ	14	28
Ve3ADM	13	49
Ve3ARS	12	61
Ve3AJS	12	39
Ve3BBY	10	25

Call	Countries Worked in Month
Ve4RO	CM, G, FB, CE, VO, LU, ZD4, VK, ZL, HC, KP4, HK, KH6, XE, PY, HH, OA, TI, AL7, UA3, OZ, OK, YR, KG6, HP, TG, KW6, VR5, XU, J, ZS, VP9, VP4, CX, KZ5, LA, KP6, VP6, YV, GM, ON, SM.
Ve2GA	LA, OK, OZ, UA3, PA, F8, G2, HB9, GI, GM, II, OA4, UB5, W4IKC/KP4, SM, LU, VO, PY, XE, VK2, HH3, VP4, FA8, CX, CM, TG, CN, PZ1.
Ve3LZ	GM, VK, ZL, KH6, PA, G, FA8, OZ, LA, LU, ZK1AH, KP4, II, HK6, UA3, KP6, OA4, CM, HB, OK, YR, UA9, ON, J2, EI9, F.
Ve7EH	C, FA8, G, GI, GM, J, KA, KG, KH, KL, KP4, KP6, KW, ON, PA, PK6, PZ, SM, VK, VS1, VS6, XE, ZK1, ZL, ZS.
Ve3BBZ	II, D4, VP6, F3, G5, PZ1, ZS, VO, LX, LU, XE, OA4, OQ5, PY, ZL, CO, HK, CE, YV, KP4, TG, CX.
Ve3QB	G3, VO, GM, VE8 (Baffin Island), VK, NY, CO, VP4, HK, TI, EI, II, VO6, OK, ZB, HC, ZL, KH, OQ, OZ, VP5, CN.
Ve1PQ	PA, G, I, XE, FA, ZS, CM, OK, VO, EI, KH6, KP4, F, HB, PY, GM, ON, VK, OZ, CN, D.



THERE must be something in the air around Winnipeg! I think we should ask George to break down and tell us the secret. . . . This guy is going to run out of countries. . . . Still no Ve5's. How about it, fellas? . . . Ve2GA pops into second place from ninth. Nice jumping, James. . . . Ve1AQ did a mighty fine job for first two weeks of March. Then the rebuilding bug bit him. . . . Ve1PQ relates that he worked ZS2AL on 10, 20 and 40 meters during the dx contest. . . . Some of the boys sent in their February list a little too late to catch the March issue. Sorry we couldn't include them. . . . Ve3BBY reports that HB9AW advises that HB9CN is a phoney. . . . Dirty trick because HB9CN passed into the Great Beyond some years ago.



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and retail outlets and are subject to priorities.**

Watch for Further Announcements

CORPORATION

#180

C A R O A NATIONAL REPORT

VE1

Ronald J. Hesler, VE1KS—TI is at present with Fleet Air Arm of the Canadian Navy stationed at Dartmouth. And works out very well with 15 watts to a single ZL6; is planning a new rig with an 808 or a pair of 807's. IL is working hard to get his WAS and is spending most of his time on 20. Ken Cox in Saint John, has passed his ticket exam and is awaiting his call. L.C.A.R.C. now holds its meetings twice a month instead of the former monthly meeting. George Kemp at Lakeburn is busy brushing up on his code and finishing his xmtr. II sneaks on the band when AQ is off and works 20 and 40 CW. LO is busy grinding xtals and has moved from 6 to 20, 40 and 80. WP getting excellent results on 40 and 80 with 15 watts. TN advises A.F.A.R.S. phone net is now working smoothly. This net now consists of the following: CX, FL, GO, HB, IE, KN, KQ, KR, KS, LH, IZ, PA, TN, CL, DU, DY and MA. QS has fine new rotating beam on 10. PA working 20 meters with the rest of the Dogpatchers. FT was heard on 20 QRL contest. IU getting results on 10 fone. RE has new rig going, worked three VK's first morning. MQ is a new Lakeburn signal heard on 20 and 40. BF has gain control trouble with his audio. VF is now signing VO6U. VQ new call in Lakeburn, not on the air yet. ND is busy rebuilding. PS is working 20 CW. GD has acquired a new accent on account of working so many G's on 10. QT doing a swell job on reporting the activities of the Lakeburn boys to your DCM. HD has a new panaadaptor and has been seen buying parts for a big final to go with his Millen exciter. The Halifax boys are showing much interest on 8, 2 and even 1½ meters. PX and PR are keeping regular skeds on 1½. PQ, SF, GF, EP, MZ and RK are already on or are planning to get on this 1½-meter affair. QZ keeps transmitting sked with QT at Moncton from 1205 to 1215. QZ, who is the VHF correspondent for XTAL, gave a very fine lecture at the H.A.R.C. meeting recently. BC did well in VE/W contest on low power; he also hooked XZ2DM on 10. QT has a new BC348 receiver. DS has changed his SX25 for a National NC240D. KS, long an advocate of a certain type receiver, is now the owner of an HQ129X, merriment! HI (I was warned that this must go in—MA must have something to do with it!). PX has 350 watts Class B on 75 in the wee small hours and is still having trouble with a 20-meter beam. BJ after a long stretch at sea in foreign waters will be back on the air soon with a VFO and an 807—look for him on 20. The H.A.R.C. wishes to offer congratulations to the newly-formed Truro Amateur Radio Club, who have started out on the right track by having members' rigs checked by their own technical committee—no pink tickets for this club. RR got himself an LI2 to bring up his count of countries worked since the war to 55. Is about to fire up on 20 a 200-watt jobbie with PP 813's Class B. EW is active on CW on 20, 40 and 80, is finishing a new 8-tube single-signal rcrvr and also adding an 814 to his final. WG sends in a newsy letter from the North Shore. EM is now active on 75 phone with an 814. CT is planning to add an 813 to his final. QO's rotary antenna blew down down in the last storm. HW is trying to get the bugs out of his modulator for a pair of 807's which burn the ether on 75. WG recently acquired a new AR77 rcrvr and is waiting for a crystal in order to take a crack at 10 phone. EE acquired an addition to the family in the person of a brand new yl. Wedding bells recently rang out for the president of the L.C.A.R.C., IZ. JO has decided to revamp his rig. FC doing O.K. on 20 meters, despite the "back fence and clothes pole" array. AYL getting out fb on 10 phone. LI is not going to give his phone number out over the air any more—shades of wartime security—seems Bill did just that and the irate owner of a set not blessed with a TRF stage, called him up and started bollering. New hams in Saint John awaiting calls are: Pat Staples, Walt Peters and Doug. Burrill. The L.C.A.R.C. are now putting out monthly a very fb organ titled "The L.C.A.R.C. Bulletin." CW passed through Sackville recently on his way to hospital in Halifax—seemed concerned over the fact that the air force only gave him a

one-way ticket. QF recently came up to 75 phone for one night; works on the theory that the B.C.L.'s can listen to their favorite program 364 days out of the year, he is going to take the other day remaining (what about leap year, Ron?). SY spends most of his time on 20 phone and is planning new 880-watt Class B job. KT is working out fb on 10 phone. QF is the maritime member of CAROA's newly-formed national committee to delve into the mysteries of bigger and better contests for Canadian hams. Drop him a line, fellows, when you have any ideas for contests. SH recently acquired a BC348 receiver. KQ is planning to shelve his HQ129 receiver for an AR2. MA complains about much B.C.I. trouble at his new QTH in the middle of town. The matter of a Maritime Amateur Radio Convention is still very much up in the air at the time of writing. From all indications it appears that if the L.C.A.R.C. doesn't sponsor same there will be no maritime hamfest this year. Moncton Club is busily engaged in building their new club station—should be on the air by the time you read this. 73—RON.

VE3

R. C. Hunt, VE3WX, London—3NI finally gets to club meeting personally after attending via 6-meter phone all winter due to illness. 3HG needs Africa for phone WAC, has 36 countries and WAC on CW. 3AU1 works ZL's on 40 meters. St. Thomas 6-meter phone gang includes 3NI, A8UI, SOT, 3BDC, 3BJF now with T.C.A. Goose Bay, Labrador, and signs VO6V. 3QO awaiting card from Asia for WAC. 3AKB on 20 and 80 with PP 813's. Claims set dx is 8S2, 12 feet straight down. 8S2 has pair 801's in final and SX25. 3BIE is on 20 and 6 phone with combination rotary beam. 3JV building 8-meter mobile job with 815 final and 815 modulator. 3AFI is on 10-meter phone when conditions permit. 3ADD reports for the North Shore Radio Club. Too busy shining new car to finish rotary beam. 3PF's xyl has passed exams and now has certificate. 3ND working 10-meter phone with 25 watts to a 300-ohm folded doublet. 3QC, 3BCG, 3AKQ, 3AMT and 3ADC are looking for contacts around 52 Mc. Best dx to date 15 miles. 3AMC was visited by 3SY, and they in turn visited 3QB. AMC is making a specialty of VK's and ZL's and is doing fine with a fair of RKO's. 3ATU is on 10 and 20 CW with a pair of 807's in final and is operating from Camp Borden. 3PH sat up till 1 am to hook a KW6 and was taken to the hospital two days later. Wonder if there is any connection. At last reports is up and around again. 3ALU and PH are building scopes and think will have to combine two of them to get one good one. 3BNE is new call in Kirkland Lake. 3AZN has a nice new BC191 and now needs a place to park it. Better get the xyl a ticket and get some co-operation. 3BBQ has new home constructed receiver with everything on it except an automatic QSL card sender outer. Now working on 8-meter mobile rigs for the fishing season. 3BGE has gremlins in his 807's. 3WI running 300 watts into a vertical half-wave on 40 meters. 3PA has a fl rack and panel job with T85's in final. 3TC putting Swastika on the map on 40 CW. 3AWW has returned to Kirkland Lake. The Kirkland Lake Amateur Radio League had their annual meeting, banquet and election of officers with 27 present, including the old original 3AA now in Iroquois Falls. 3ALL of New Liskeard and 2SC of Perron, Que. 3ALU, 3PH and 3BJE are the new officers. More stations are needed in the Beaver Net, 3535 Kc, 7 pm daily. Please report to net control station at the call of QBN. The net misses Reub. 3ATX, who is sojourning in Westminster Hospital, and wishes him an early recovery. 73, Bob, VE3WX.

VE4

C. E. Johnson, VE4XO, Winnipeg—Annual election of the Winnipeg Amateur Radio Club took place recently, with the following members being elected: JE, Bill Burton, president; NI, Bill Sutton, vice-president; Miss

Young, secretary, and LC. Len Cuff, treasurer. Good luck, fellows, for the coming term. The club now has a new QSL Bureau with the QTH as Box 26, Winnipeg. They have also formed a committee to give the boys a hand in cleaning up modulation troubles and key clicks (do we have those troubles in Winnipeg?). The 20-meter phone band is still as active as ever with many newcomers adding to the QRM. NI works VK's every morning before work and his xyl carries on from there and catches the odd J, KA, etc. Bill says if the QRM gets much heavier he is going to add another "B" battery to the rig. AD comes through after the BCL's hit the hay. MC had added to the 20 phone QRM with PP 807's and a long wire antenna. AM, our enthusiastic traffic man, has finally broken away from the key and is now calling CQ on 20 phone. JF is back in Winnipeg after three months working various VE7 rigs. JS and IP will soon be taking up residence in VE7 land. The CW boys are all going strong after the dx. RO is still taking his usual share. RX is doing fb with 42 countries post-war. Brother TX is rebuilding. DL is using PP 807's and working the VK's. MP is building up a post-war score. CJ has new final. YZ is on both 10 and 20 CW after the dx. RA from Lac du Bonnet has new 10-meter beam. Olie will soon be on with a pair of HK224's. MJ uses pair HJ24's for working his 10-meter phone dx. On 80 we have JN from Waskada using 807's on both CW and phone. RB from Killarney is a new phone heard on 15. ET is also a newcomer from Myrtle. BD from Deloraine uses 807's on CW. II, also from Deloraine, uses single 6L6 on CW. HS and brother LS from Miami are off the air and have gone back to the farm. MM from Portage active on all bands, is going to put up a rotary for 20; he is also rebuilding with pair 810's in final. AN from Portage is on 40 CW with single RK39. FR has worked dx on 40. SS has given up 30 and is now heard on 40 with 6L6 final. FW is doing fb with 8 watts to 6L6.

From Flin Flon we hear YM, EO and EQ all on 40. EH, Berens River, is on 40 when not on 75 phone. AP, Brandon, just got back on 75 phone after being inactive all winter. Some of the recent visitors to Winnipeg have been 2GP from Hull, Que., IF from Brandon and MJ from Lac du Bonnet. 18, Chuck.

VE5

Bill Gordon, VE5MW, Oxbow, Sask.—5GU has new RME9 receiver. 5RD has his 1155 at last. 5VA spent three weeks in VE2-3 and 4 land. 5EV is back on 75 after his illness. 5EV is having trouble with his 10-meter oscillator. Anyone who read the article "I Married a Ham" in Feb. XTAL immediately thought of 5AP and his new xyl. 5GF has been working some nice dx on 20 phone and CW. We're going to take up a collection to buy 5RD a gallon or two of gas to keep his durned old engine going so he can finish a QSO without having to run out and get his engine. The Moose Jaw Amateur Radio Club spent a pleasant evening on Friday, March 15, at the home of 5OM, Mr. and Mrs. A. Capper, when the members entertained their xyl's, about 30 being present. Each lady was presented with a corsage on arrival. Games and contests formed the evening's entertainment. At midnight a delicious lunch was served, which was followed by community singing. The MJ Amateur Radio Club have discussed frequencies and have sent in recommendations. 5OM is getting out well on 10-meter phone. 5VS and 5WM are going on 144 Mc. Congrats to 5WM on just being married. Tax to 5OP for all the above done on the Moose Jaw gang. How about some of the others sending in a hi news? New stations on 75 are 5CA at Kinistino and 5PD at Melfort. 5DA is on 20. 5GA (Poppa Skunk) has a new C2 frequency

War Assets Bulletin to Merchants

The following war surplus items are available

SOLDERING LUGS

A large number and variety of new Brass Tinned and Copper Tinned Soldering Lugs. In numerous sizes.

Address all enquiries to:

Branch Sales Manager,
War Assets Corporation,
9600 St. Lawrence Blvd.,
Montreal, Quebec.

MOUNTINGS

New mountings "Lord" 100-PH — 1, 4 base holes $1\frac{1}{8}$ " c.c. 5/32" bolt hole raised $\frac{1}{8}$ " off base. 1 lb. max. load. Holder type. Rubber and Steel.

New Mountings "Lord" 150-PH — 2, 4 base holes $1\frac{5}{16}$ " c.c. $\frac{1}{4}$ " bolt hole raised $\frac{3}{8}$ " off base. 3 lbs. max. load. Rubber and Steel.

Address all enquiries to:

Branch Sales Manager,
War Assets Corporation,
Toronto Branch Sales Office
11 Jordan Street
Toronto, Ontario.

Articles such as these are directed to the public through regular wholesale and retail outlets and are subject to priorities.

Watch For Further Announcements.

TERMINAL BLOCKS

New and used terminal blocks, for connecting receivers, telephone and Morse Keys. Composition base with six embodied terminals.

Address all enquiries to:

Branch Sales Manager,
War Assets Corporation,
Moncton Branch Sales Office,
Toombs Bldg.,
Moncton, N.B.

RADIO SPARE PARTS KITS

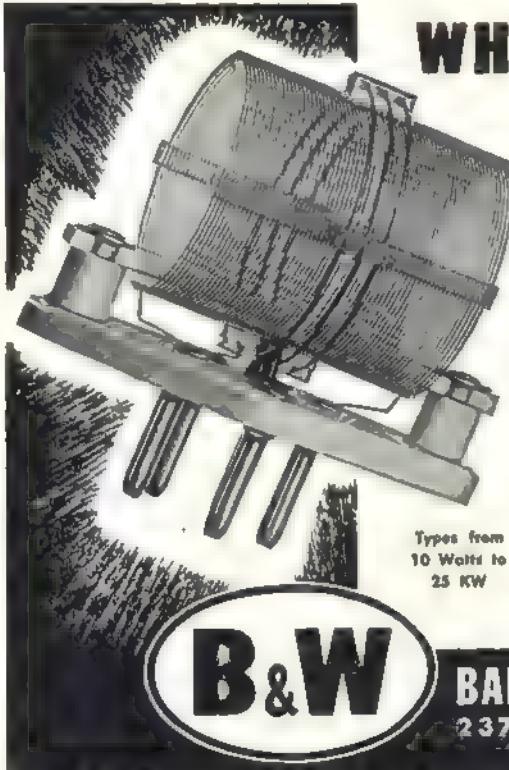
New Spare Parts Kits A/c Transmitter Spare Parts for TA12C. Each kit has sufficient spares to cover 10 TA-12C Equipments in operation for one year under wartime conditions.

Address all enquiries to:

Branch Sales Manager,
War Assets Corporation,
Charlottetown, Halifax, Moncton, Quebec, Montreal, Ottawa, Toronto, London, Winnipeg, Regina, Calgary and Vancouver.

WAR ASSETS CORPORATION

230



WHY WIND COILS on Air?

B & W "Air Wound" Inductors are sturdily supported by plastic strips, not conventional winding forms. Here's what this B & W development means to you:

NO COIL FORM TO CAUSE DIELECTRIC LOSS . . .
There's an absolute minimum of extraneous material in the coil field.

LIGHTER IN WEIGHT YET LESS SUBJECT TO DAMAGE . . .
Nothing much about them to break. Even if dropped and bent, B & W "Air Wound" Inductors can easily and quickly be repaired without tools.

EASIER TO MOUNT . . . Ideal for plug-in services, turbines, etc., wherever quick, easy mounting is a factor.

GREATER ADAPTABILITY . . . Many special design features can be supplied, including internal or external coupling links, etc.

Write for B & W Amateur Radio Inductor Catalog.

B&W

BARKER & WILLIAMSON, Inc.

237 Fairfield Ave., Upper Darby, Pa.

Canadian Representative, Wm. F. Kelly Co., 1207 Bay St., Toronto 5

meter and a 5" Dumont scope. Bill says he is going to get a few more watts into the antenna and get the bugs out of the rig. We wonder if Bill isn't going to chase the bugs out of his rig and maybe chase 'em up into the antenna. But if we know Bill he'll get the watts and the bugs in their respective places. He has been working down into Central America on 75 and got an S8 from TG9BC and TG9LM, plus quite a few Mexicans who all give Bill S9.

SLM gets out just as well with his 10-watt rig as with the 100 watts. Where, oh where, has 5RD gone? 5BK is on 75, along with 5KE on 80 CW. 5RB has an 1155. 5MW paid a visit to VE4 land. 5JP at Regina is QRT for work in the country for a few weeks. Johnny says he has a new rig in the making—completely band-switching, xtal or VFO, with the lineup as follows: 5F8 VFO, 5L6 xtal-307 buffer-812's in the final. 5VA is running higher power to an 812. 5QT is rebuilding from his breadboard layout to a rack and panel job. 5AC is on 75 from Buchanan. 5MW has new \$40. Bill is bored. Anybody know why? 5LB, C.P.R. agent at Abernethy, is on 80 CW. The A.F.A.R.S. net is getting well on its way on 3596 with 5FS, 5AI, 5KJ, and 5HJ. 5FS is running 110 watts into an 812. Don is having antenna trouble at his QTH. His skyhook is strung in a maze of power, telephone and clothes wires. Don also has a street car loop nearby, and gets a street car around the block every seven minutes, all of which, of course, makes for perfect reception. 78, Bill.

VE6

W. R. Savage, VE6EO, Lethbridge, Alta.—6CK is heard working on 75 with a new mike. 6IX is working out fb on low-power 75 phone. 6NF and 6KI are going to do some portable work this summer. 6CE is very busy with chicks now and we think Nancy must be on the Rexboro Chamber of Commerce the way she can advertise the town to 6CR. 6LA is getting ready to start his spring work as soon as the ground dries up.

6SR would like to contact China; he must have worked most all the dx. 6IB has been snowed in but has been getting out O.K. on the air and making a converter. 6HP is heard on 75 phone with a fine signal and has his C2 frequency meter. 6MN burns out his 888 filament transformer while in a QSO. Now he's got a job of rewinding. 6IP has a new war assets receiver. 6AA is now on 20 phone. 6PP still has lots of ice on the lake. 6DR is making a trip east. 6OD is playing around with a C2 frequency meter. 6EV has taken his 10-meter rig apart to give it a rest for summer. 6AO is pounding out a husky signal on 80 CW with his 810's. 6DN wants to get a new ear; he must be planning lots of ham fests this season. 6SL has his basement flooded. 6JR is working sheds with 6VN. 6IC makes a nice score in the W/VE contest. 6OF is heard on 75 phone with his new rig. 6OA must grow meters on trees, he has so many around the shack. He also has a new yr junior operator. 6HQ is still having QSO's with his son in the VE8 country. 6XX can always oblige the boys with a Nash, when he has them. 6US is busy installing refrigeration in the cannery to the extent of 850 horsepower. 6RH has a 10-meter rotary beam up. 6KO is busy trimming his ECO to make it just cover the bands. 6GR is a new ham in Raymond and is on 28 Mc CW.

VE8

J. Spall, VE8A, Box 268, Whitehorse, Y. T.—Whitehorse gang . . . 6AG built addition onto his R.C.A.F. married quarters for ham shack and really did swell job on new setup. 6BH has left for Alaska with P.A.A. 6AW still adding to his list of dx. 6AN very silent about his hamming. 6AK is in Vancouver on vacation and we hear he has taken to flying. 6AJ still trying to get South America for WAC, also awaiting 6AK's return so he can go on vacation. 6AY finally got the bugs out of his push-pull 813's and is knocking the dx cold. We welcome ex-VE7 Bob Foster to the Whitehorse QRM. 6BB still working on rig.

GRID MILS tell the story!



On 10 and 20 fone...
PR's put out more
DRIVING POWER!

On the higher frequency fone bands DRIVE is the problem! Plenty of grid mils to the final means top efficiency ... full modulation capability ... longer life for the big bottles ... more watts in the antenna. Drive begins with your crystal stage! That's why rugged PR Precision Crystals are designed to deliver high power output under gruelling amateur conditions ... negligible drift

over wide temperature range ... amazing activity ... sealed against contamination and moisture ... accurately calibrated. Yes, low cost PRs deliver MORE POWER! Available from your jobber for all bands, including ten and eleven. Every crystal unconditionally guaranteed! — Manufactured by PETERSEN RADIO CO., INC., 2800 WEST BROADWAY, COUNCIL BLUFFS, IOWA. (Telephone 2760.)

Precision CRYSTALS	SINCE 1934	
	10 METERS PR Type Z-5.	
		Harmonic oscillator. Ideal for "straight through" mobile operation. High activity. Heavy drive without damage in our special circuit. \$6.75
20 METERS PR Type Z-3.		Harmonic oscillator. Low drift. High activity. Can be keyed in most circuits. High power output just as stable as fundamental oscillators. \$6.75
40 & 80 METERS PR Type Z-2.		Rugged, low drift fundamental oscillators. High activity and power output with maximum crystal currents. Accurate calibration. \$8.00

FIELD DAY—from page 8

multipliers may be claimed (plate voltage times plate current):

- (a) Up to and including 30 watts—multiply by three.
- (b) Over 30, and up to 100 watts—multiply by two.
- (c) Over 100 watts—multiply by one.

Entries for stations located in Ve8, Ve7, Ve6 may have the score computed as described, multiplied by a final multiplier of 1.5 to assist in equalizing contact opportunity for Field Day set-ups in the less populated areas.

Reporting: Score claims must be shown as the sum of points for each set-up. A station-worked list for EACH BAND must show contact times for each contact. A statement covering on-off times for bands and transmitters is required. State the maximum number of transmitting units in simultaneous operation at any time. Attach copies of all messages for which any credit is expected, just as handled

and with time and station indicated. Note the sources of plate and filament power, along with the watts input for each rig. All reports to count must be mailed on or before June 30, 1947, to constitute an entry.

Where possible Canadian amateur radio clubs competing for the "EVEREADY" Trophy should send a second copy of the log submitted to A.R.R.L. HQ, to CAROA HQ, at 46 St. George Street, Toronto 5, Ontario. This procedure, although not mandatory, will facilitate fairness in checking.

Recent disasters where amateur radio has proved itself of immeasurable value have shown the advantages of construction design for portability, for connection to battery or emergency supply quickly in case "it happens here." You haven't had your "kick" from ham radio until you've operated in an A.R.R.L. FIELD DAY!

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JUNE 14 AND 15



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- Vertical Axis of 0.65 r.m.s volts/inch (max.).
- Horizontal Axis of 0.65 r.m.s. volts/inch (max.).
- Sinusoidal Frequency Response (full gain)—Uniform within 20% from 20 c.p.s. to 50 Kc, down not more than 50% at 100 Kc.
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Here is an inexpensive, general purpose Cathode Ray Oscillograph—featuring a 5" Cathode Ray Tube in a compact, portable case. The type 274 fills a long standing need in the Radio Amateur field.

Contact your dealer or write direct to us.

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OSCILLOGRAPH
TYPE 274

\$135.32
COMPLETE

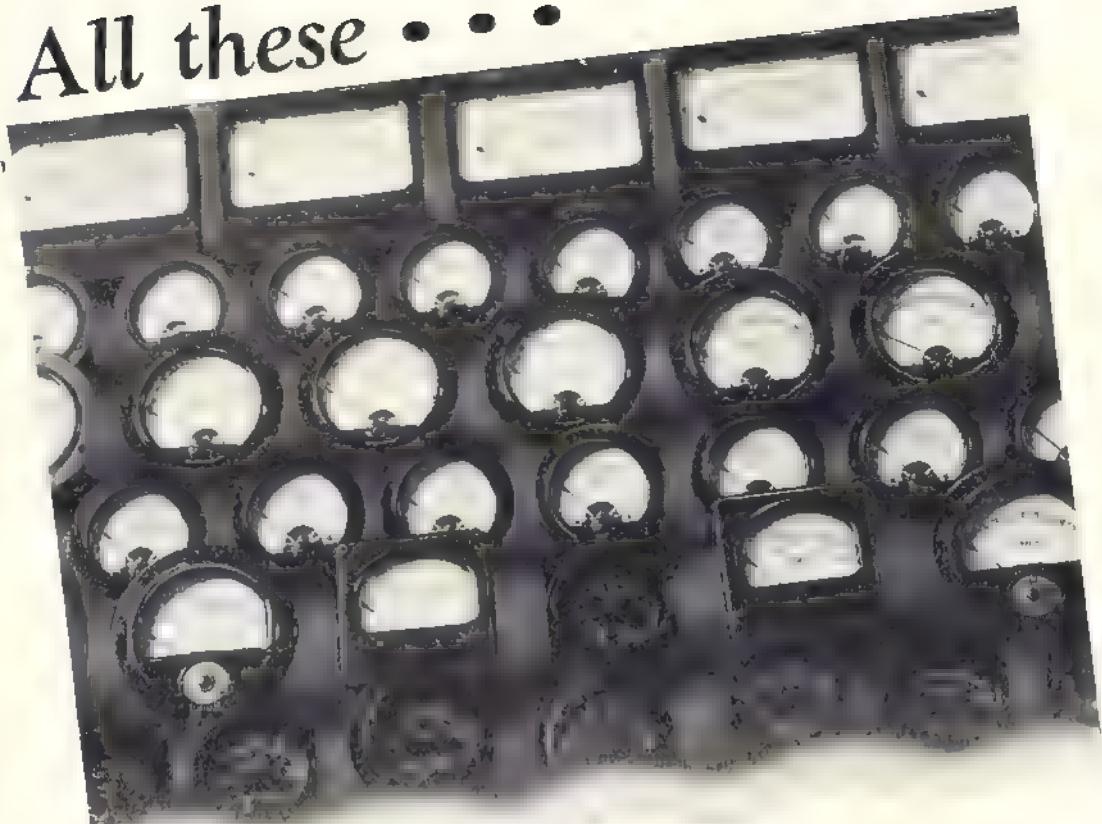
(60 cycle)

Add \$36.50 for
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All these . . .



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- Fifteen Case Sizes and Types.
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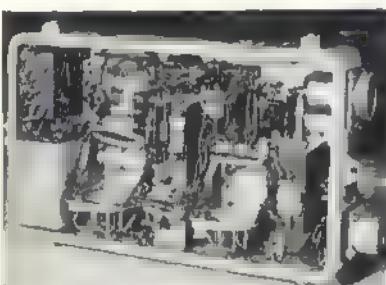
The Canadian Amateur Radio Operators' Association
 OPERATING STATEMENT
 For the Period Aug. 1, 1946, to Dec. 31, 1946.

XTAL ACCOUNT

Revenue:		Surplus:
Advertising Sales	\$6,765.00	Adjusted deficit as at Aug. 1, 1946
Less: Agency Commissions	447.16	
Subscriptions	\$5,277.84	
	3.00	
	\$5,280.84	
Expenditure:		
Expenses	\$4,124.70	
Operating Profit	\$1,156.14	
ASSOCIATION ACCOUNT		
Revenue:		
Membership Dues	\$ 761.31	
Less: Dealers' Commission	19.25	
	\$ 742.06	
Commission from Call Book Orders	7.65	
Profit from Advertisers' Services	2.27	
Income from sale of Mailing List	\$ 78.60	
Less: Reserve re S.B. Trainer	25.00	
Miscellaneous	63.60	
	2.50	
	\$ 508.08	
Expenditure:		\$1,084.22
Expenses	\$1,092.00	
Discounts Allowed	40.40	
	\$1,132.40	
Net Operating Profit for period	\$ 831.82	

Surplus:		BALANCE SHEET
		As At December 31, 1946
Surplus		
		ASSETS
		Cash in bank and on hand
		\$ 73.49
		Accountable Advance (Deposited in bank in January) \$ 30.00
		Accounts Receivable \$ 1,768.58
		Accounts Receivable in Suspense 7.59
		\$ 1,766.17
		Less: Allowance for Doubtful Accounts 75.00
		1,691.17
		Furniture and Fixtures \$ 71.75
		Less: Allowance for Depreciation 20.00
		\$ 51.75
		LIABILITIES
		Accounts Payable \$ 1,565.07
		Salaries Payable 45.00
		Drawing Account J. V. Perdue 20.55
		D. I. T. Deductions 38.70
		Contingent Liability 25.00
		Surplus 142.08
		\$ 1,846.35

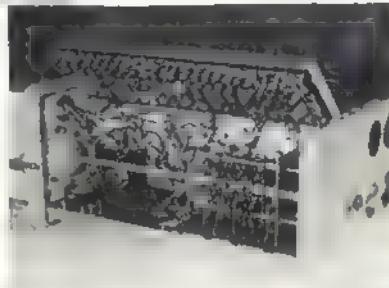
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Lapel Buttons in Sterling Silver
— 75c Postpaid —



WAR SURPLUS TYPE
 R1124A LESS TUBES
 AS SHOWN

\$2.95

This Equipment has just arrived . . . The components alone are worth many times the price.
ACT NOW!

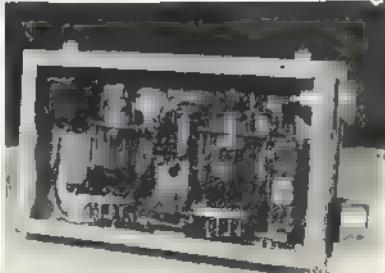


WAR SURPLUS TYPE
 R1124C COMPLETE
 WITH 6 TUBES

\$7.95

→ WAR SURPLUS TYPE
 R1125B WITH 2 TUBES

\$3.95

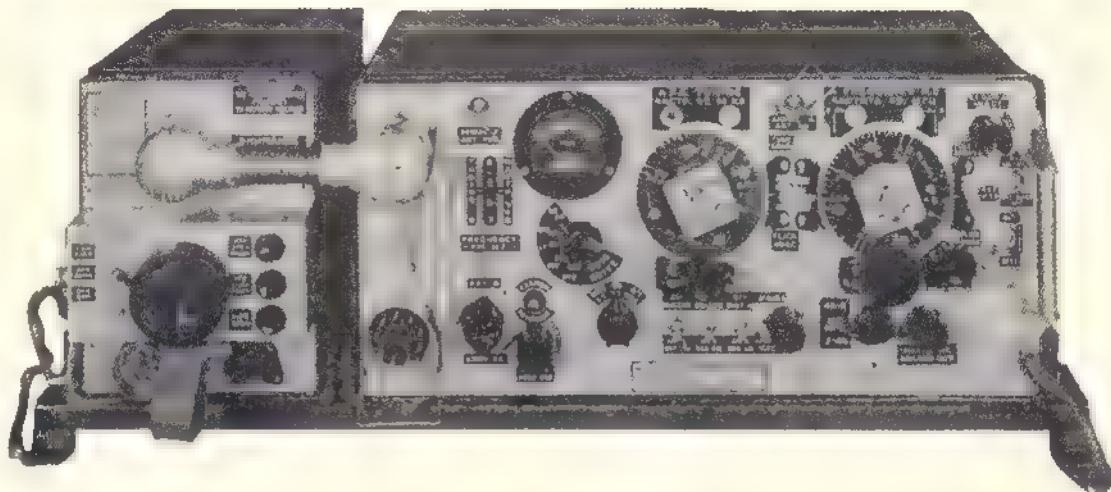


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 222 Ossington Ave. Toronto, Ont.

LOWEST PRICE

IN HISTORY

MARK III No. 19 SETS WITH SPARES JUST ARRIVED! ★ LIMITED QUANTITY!



COMPLETE
WITH SPARES

\$ 49 50

BRAND NEW
EQUIPMENT

EVERY AMATEUR IS FAMILIAR WITH THE QUALITY OF PARTS AND CONSTRUCTION IN THESE FAMOUS UNITS . . . WITH MINIMUM OF MODIFICATIONS THESE TRANSMITTERS MAY BE PUT ON ALL THE POPULAR AMATEUR BANDS . . . ACT NOW WHILE THEY LAST!

WRITE
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SHIPMENTS
ALL
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200 POUNDS
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10% WITH
ORDER
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222 OSSINGTON AVE.

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50-54 Mc.

CRYSTAL
CONTROL

with

VALPEY

Is Now Possible!



Nothing complicated about using a Type CM5 25 Mc crystal in an ordinary Tri-tet oscillator with its plate circuit tuned to the second harmonic. Easy?

At \$6.10 each, much easier than struggling with a string of frequency doublers.

Write for prices on spot frequency "nets."

Specific frequency prices on request.

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OUR CRYSTALS OBTAINABLE IN CANADA
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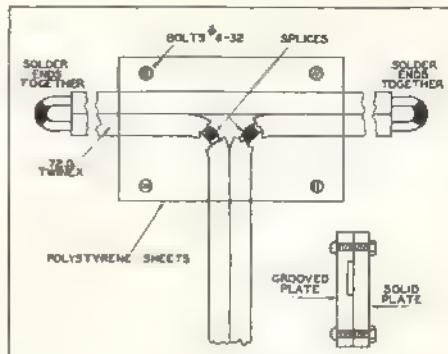
Canadian Representative:

J. R. LONGSTAFFE, LTD.
11 KING ST., WEST
TORONTO, CANADA

BEAM—from page 7

ings this is more readily understood than my feeble explanations can point out.

The reflector is No. 12 solid copper wire 17' 1" in length. The director is 15' 11" in length and also solid No. 12. The driven element is actually a folded dipole and is 16' 4" in length and is made of Amphenol 72-ohm Twinex. The feeder is also 72-ohm Twinex



and is joined to one side of the driven element in exact center. It is coupled to the final tank with a two-turn adjustable link and can be cut to load properly. The joining of the feeder to the driven element is easily accomplished, as per drawing. The joint is weather-proofed by taking two pieces of $\frac{1}{4}$ " polystyrene sheeting about 2" x 2". One piece of this is grooved so the "T" shape of the joint fits it snugly. These two plates are then bolted together and doped with six coatings of Amphenol 912 dope, each coating being allowed to dry before the next is applied. The driven element and feeder is well coated with a good quality floor wax. The center of the driven element is supported by a short piece of 1 x 3 and two nails hold the polystyrene block in a vertical position. Spacing between the driven element and reflector is 59" and between the driven element and director 39".

Construction of tower, rotating mechanism, etc., will not be covered, as so many methods can be employed.

The beam works very well, and with my single 807 running only 35 watts I have had Q5 R8 reports from Australia and various reports from Europe from R6 to 20 db over R9. Continental contacts are always very good, depending on the conditions. VE6RH tells me I have a pile of junk, and, as I rather agree, I credit all my success to the beam. I've been on ten for only a little under three months and so far have had 478 perfect QSO's. So many have asked me for details on the beam that I thought it's being published in XTAL would help all interested in something efficient and economical.



Rag-chews with XTAL readers

About the only subject on which the World Powers seem to be in real accord is in their liking for our Insulated Resistors. As a result, you will find these little Metalized units in popular favor wherever in the World radio is known and enjoyed—from Paris to Podunk to Timbuctoo.

Thus, due to their wide utility, a few notes on their design and application may be of interest.

In manufactured products as well as in diplomatic conferences there are always compromises. If the product is a popular one, you can be sure that the designer has struck a happy balance between the various qualities desired. This is true of automobiles, lipsticks, breakfast cereals and shot-guns—and even resistors.

The characteristics outlined below are made possible by their Metalized construction and offer some explanation for the widespread adoption of the Type BT.

1. **Life.** There is no known limit.

2. **Stability.** Under normal weather and humidity conditions they will remain within 1% of their original value at no load and within 2 to 5% when run continuously at rated load.

3. **Overload Capacity.** Will remain within 5 to 15% of original value (depending on the size and range of the resistor) when run under a 100% overload for 1000 hours.

4. **Temperature Coefficient.** (Change in resistance with temperature.) From minus .02% to minus .05% per degree Centigrade change in temperature—the lower value for the lower ranges.

5. **Voltage Coefficient.** (Change in resistance with changes in applied voltage.) From 0% to .01% per volt applied.

6. **Noise Level.** From 0.1 to 1.5 microvolts noise per volt applied to the resistor. Noise level is a function of voltage per unit length; therefore for extremely low noise level applications the longer units should be used.

7. **Voltage Rating.**

Type BT- $\frac{1}{2}$ (.2 Watt) 350 Volts Maximum

Type BT-1 (1 Watt) 500 Volts Maximum

Type BT-2 (2 Watt) 500 Volts Maximum

8. **Insulation.** Better than 1000 volts breakdown to ground through bakelite covering.

9. **Mechanical Strength.** Lead wires withstand better than 20 pounds pull.

10. **Humidity Protection.** Molded bakelite insulation insures against moisture penetration; will withstand salt water immersion

11. Small Size.

Type BT- $\frac{1}{2}$ 3/16" Dia. x $\frac{5}{8}$ " Long

Type BT-1 $\frac{1}{4}$ " Dia. x $1\frac{1}{2}$ " Long

Type BT-2 5/16" Dia. x $1\frac{3}{4}$ " Long

12. **Tolerance.** Standard tolerance plus or minus 10% (or plus or minus 5% on Special order).

13. **Frequency Characteristic.** Suitable for general use from DC up to 5 or 10 megacycles. Low resistance ranges, up to 25,000 ohms, have constant impedance at frequencies up to 10 megacycles. High range units (0.5, 1.0 megohm, etc.) drop off in impedance at frequencies above 1 megacycle. For high frequency operation, where the resistance value is 100,000 ohms or above, our Type F resistor is recommended.

14. Temperature Rise.

At rated load BT- $\frac{1}{2}$ 35°C.

BT-1 40°C.

BT-2 50°C.

15. Ranges Available.

BT- $\frac{1}{2}$ 50 ohms to 20 megohms

BT-1 150 ohms to 20 megohms

BT-2 200 ohms to 20 megohms

The application of these resistors in receivers, low power transmitters, oscilloscopes, etc. is common knowledge. The above noted figures may suggest their use in voltmeters, ohmmeters, etc. They are entirely suitable for such use and, in fact, we count several of the well known meter companies among our customers. They should not be substituted for Precision Wire Wound Resistors where 1 or 2% accuracy is necessary.

In this service we would recommend operating them at a low load—say, not more than a fourth their rating. This reduces the temperature rise and drift due to temperature changes. For higher voltages than rating, series operation is feasible. Series operation will increase the wattage rating in proportion (providing the resistors are all the same value) and still further reduce the noise level, due to the increased length. Parallel operation of the same value resistors will also increase the wattage rating in proportion (if the resistors have air circulation around them) but won't increase the voltage rating or lower the noise level. The noise level, however, is low enough to be completely neglected.

In summary: We make many special types of resistors excelling in certain characteristics for particular uses but for general purpose low wattage applications where cost is important the Type BT is our recommendation.

QSO NR. 11 of a series

INTERNATIONAL RESISTANCE COMPANY

VHF—from page 11

50-54 Mc News

Ve3AQA new on with NBFM on 52.5. Ve3DJ (NBFM on 52.7) has new horizontal signal squirter and works Ve3AZT fb. Oshawa is nearly 100% horizontal polarized. Ve3AIB horizontal antenna works Oshawa fb. Ve3APS on with new rig, 807 in final. Ve3BJY doing work with "walkie-talikie." Ve3DE has receiver now for 6 meters. Wonder if he was in on the dx! Ve3LU, Brantford, on with xtal control 50.6 Mc and cashed in on dx his first night on the air with xtal. Guess it's 100 watts or bust now, eh, Clayton! Reports from Yukon Territory's "Ve8 Drift" show that Ve8's are very eager to get started on 6 meters. We sure wish you luck and dx, boys, and will be looking for you on next band opening. Ve8AG, Whitehorse, Y.T., you're on top of the world up there! Ve3AOR, Dundas, will soon be giving Ve3DC some competition.

144-148 Mc

Not much to report on this band except local news. Ve3BOX new on. Ve3TY now has nice 3-element array Ve3BTY new on and doing fb. The other night, we heard 12 signals in Toronto area, so activity is really perking up on this band.

QSY to page 28

"VOMAX" MEASURES every VOLTAGE

INVALUABLE TO EVERY HAM

"VOMAX" is more than a multimeter . . . more than a volt-ohm-db-milliammeter . . . more than a r.f. vacuum-tube voltmeter. It is a post-war meter of almost unlimited capacity, covering any range of A.C. or D.C. voltage found in radio, and will be the most-used instrument on your Test Bench.

All voltages and currents, including the actual signal itself, can be traced from the antenna post to the speaker of any A.M. or F.M. receiver. You get not only true vacuum-tube measurements of d.c. and a.c. voltages, of resistance, of decibels; but you get a.c., a.f. and r.f. voltage measurements right up to over 100 megacycles . . . true visual dynamic signal tracing.

Now Being Made In Canada

ORDER NOW

Your Jobber can give you prompt delivery—or write us direct.



PRICE \$89.95

No other Multi-Meter AT ANY PRICE does as much, or can be as useful to you. "VOMAX" is a laboratory-precision instrument, yet it sells at an amazingly low price.

VE3ALC

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DIVISION OF

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TORONTO

465 CHURCH STREET

GET THE C.E.S. HABIT . . .

FOR HAM GEAR NOW

WAR ASSETS

RH - 32 Rcr. tunes 158-210 Mc modifies
to 6 mtr. Rcr. 110-v-60 cycle 14 Tubes.
Your cost \$45.00

V.R.L.—17 TUBE

CR. Tunes 1.4 to 28 Mcs - 110-v-60 cycle
Complete with speaker and built-in crystal
calibrator.

Your cost, SPECIAL \$225.00

TA-12-G TRANSMITTER

In stock including modulator 24 volt dyno-
motor and remote control - no cables.

You cost \$87.00

MILLEN 90800 EXCITER



USES - 6L6
807 -
Your cost \$56.25
Less Tubes and
Power Supply

AMPHENOL CO-AX and FITTINGS

RG-11-U-75 ohm-Hi. Power23 per ft.
RG-59-U-73 ohm-Lo. Power15 per ft.
RG- 8-U-52 ohm-Hi. Power25 per ft.
83-1SPN-Male Cable Connector for
RG-11-U and RG-8-U \$1.85 ea.
83-776-Male Cable Connector for
RG-59-U \$1.92 ea.
83-1R-Chassis Female for above \$1.10 ea.

BARKER WILLIAMSON

Perk up your loading with these links:

4 TVRN TVL-3324 TVH-2509 BVL-3231
5 TVRN TVL-3325 TVH-3510 BVL-3232
6 TVRN TVL-3326 TVH-3511 BVL-3233

Your cost any type—\$1.30

Midget MEL and MCL Coils—in stock
\$1.45 ea.

From—10 to 80 Mtrs.

Other types in stock:

B.V.L., T.V.L., H.D.V.L., T.V.H.,
B.C.L., B.E.L., T.A., Band Hoppers
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CARDWELL TRIM-AIR STYLE

PADDERS—Screwdriver
Adjustment—

50 mfd. — 100 mfd.
Your cost either type .89

TUBES—IN STOCK WAR ASSETS

9002 - 9006, 955, 956, 807, RK-39,
815 - 829-B, 801-A, VR-105,
VR-150, 810.

SIMPSON METERS

Check your final with these:

Model 27 - 3" Round

O - 1500v - DC	O - 2500v - DC
O - 2000v - DC	O - 3000v - DC
	O - 4000v - DC

External Multiplier - 1000 ohm per volt.
Your cost, any range \$16.50

CENTRALAB:—

Zero and Negative Temperature Coefficient
Compensating Types

Capacity MMF			Your Cost
1	CC20Zero		\$.54
2	CC20Z	CC20Neg.	.54
3	CC20Z	CC20N	.54
4	CC20Z	CC20N	.54
5	CC20Z	CC20N	.54
10	CC20Z	CC20N	.54
20	CC25Z	CC20N	.54
25	CC25Z	CC20N	.54
40	CC25Z	CC20N	.54
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75	CC32Z	CC25N	.54
100	CC32Z	CC25N	.54

125 to 350 MMFD—available at
slightly higher cost.

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- Stream Lined Cabinets
As in Feb. Xtal - - - In stock.
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90800

THE 90800 "50 WATT" Transmitter-Exciter

Again in production is the No. 90800 transmitter-exciter unit. Based on an original Handbook design, this flexible unit is ideal for either low power amateur band transmitter use or as an exciter for higher power PA stages. ~~less tubes,~~ but with coils for one band operation. Unless otherwise requested, coils furnished are for 10 meter output with 40 meter crystal. Tubes used are 807 and 6L6.

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HAM-ADS

SELL OR SWAP—SX 28 with PM 23 speaker, 11 months old for SX 42. Robt. Jones, 35 Hiawatha Road, Toronto, Ont.

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WILL ACCEPT best offer my QTH for National FB-7 Rcvr with crystal filter complete with power supply and 10-20-40 bondspread, also 3 pairs general coverage SW coils, recent new set of tubes, Hammond type 760 Plate transformer 360 watts, Primary 105-115 volt 60 cycle, Secondary 1500 and 1250 each side CT, Pre-war but never used. Reynolds, Ve4ZX, P.O. Box 55, Bissett, Manitoba.

POWER SUPPLY 1250 and 1750 volts, also two filament transformers on same chassis, all new Hammond equipment with large diamond red and green light and switches on front of chassis, all high tension accessories \$75.00. Also many other radio parts. G. E. Hall, 740 O'Connor Drive, Toronto, Ont.

FOR SALE—Brand new Transmitting Tubes at 30% off regular Amateur Net prices: 2 only 803's at \$21.30 each - 2 only 805's at \$12.65 each - \$65.00 takes all four! FOB A. L. Campbell, Ve6LZ, Box 256, Innisfail, Alta.

C.A.R.O.A. EMBLEMS—Lapel-type buttons now available. Identify yourself as a member of CAROA at all gatherings. Postpaid from C.A.R.O.A. Hq., 46 St. George Street, Toronto, Ontario, for 75c in Sterling Silver.

VHF—from page 26

VHF Wrinkle

Amateurs with war surplus R1155-A receivers can make a simple VHF converter by using a super-regenerative detector with its plate circuit coupled loosely to the antenna of the R1155-A. The trick is to pick up the fundamental or low value harmonic of the quench frequency. This quench frequency is modulated by the incoming signal and the combination makes a pretty fair "double-conversion" converter. Also by listening to the fundamental of the quench frequency on the 75 Kc to 200 Kc range of this R1155-A, it is possible to obtain the exact value of quench frequency necessary for maximum sensitivity. This is in the neighborhood of 80-95 Kc and may be adjusted exactly by the use of a 175-550 mmfd. or 230-800 mmfd. padding condenser, used in place of the fixed mica condenser for the lower side of the VHF RF choke to ground. So don't be too hasty about tearing out the low frequency coils in the R1155-A!

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COMBINING BEAUTY
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Designed and built to meet the exacting requirements of the Radio Amateur, Hallicrafters sensational model S-40A gives the finest performance of any communications receiver in its price class and is housed in a cabinet of truly functional beauty. Handsomely designed, expertly engineered, S-40A points the way to exciting new developments in amateur radio. Listen to its amazing performance. Beneath the sleek exterior of the S-40A is a superbly engineered chassis. One stage of tuned radio frequency amplification, the S-40A uses a type 6SA7 tube as converter mixer for best signal to noise ratio. RF coils are of the permeability adjusted "micro-set" type identical with those used in the most expensive Hallicrafters receivers. Available in both 25 and 60 cycle designs. Approved for use in Canada by the Canadian Standards Association.



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